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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,042	12/30/2004	Yong Sun	TSUZ 2 00020	9838
27885	7590	04/26/2006	EXAMINER	
FAY, SHARPE, FAGAN, MINNICH & MCKEE, LLP 1100 SUPERIOR AVENUE, SEVENTH FLOOR CLEVELAND, OH 44114			FETZNER, TIFFANY A	
			ART UNIT	PAPER NUMBER
			2859	

DATE MAILED: 04/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

**Office Action Summary**

Application No.

10/520,042

Applicant(s)

SUN ET AL.

Examiner

Tiffany A. Fetzner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
 Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 December 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/30/2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. **Claims 1-2** are rejected under **35 U.S.C. 102(a)** as being anticipated by **Son Yu et al.**, Japanese article "Dielectric Loss in C<sub>60</sub> Films Observed by Direct Coupling with Electromagnetic Fields" Kyushu Institute of Technology **March 2002**, Vol. 49, No. 2, page 582. (Under the document identifier **29p-YL-17 0226** on page –582–). The examiner notes that this article was published in March of 2002 and applicant's earliest effective priority date, is July 12<sup>th</sup> 2002. The **Son Yu et al.**, article is also listed as an "X" document on applicant's Japanese international search report, and provides four authors (i.e. Y, **Sun**, K. **Kirimoto**, Y. **Yamasaki**, and T. **Miyasato**). The instant application has only two inventors: (i.e. Y, **Sun**, and T. **Miyasato**). **Due to the different inventive entity, the Son Yu et al., Japanese article "Dielectric Loss in C<sub>60</sub> Films Observed by Direct Coupling with Electromagnetic Fields"** Kyushu Institute of

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Technology **March 2002**, Vol. 49, No. 2, page 582 is available as prior art against the claims of the instant application under **35 U.S.C. 102(a)**.

5. The examiner also notes that the rejections below are based off of an "unofficial" oral / machine translation of the Japanese article.

6. With respect to **Claim 1**, the **Son Yu et al.**, Japanese article teaches, "A method for measuring the molecular rotation" (i.e. molecular rotational frequency) [See the experimental results section on page 582] as well as the shift / change / increase in rotational frequency (i.e. "speed") "of a fullerene or a fullerene derivative" [See C<sub>60</sub>] "which comprises having a thin film of the fullerene or the fullerene derivative absorb an electromagnetic wave varied in frequency" [See the methods and experimental results section where a thin film of C<sub>60</sub> absorbs / attenuates a radio wave with a variable frequency range of 50Mhz to 500Mhz , using a LiNbO<sub>3</sub> crystal. Additionally, the **Son Yu et al.**, Japanese article teaches, "measuring the change in electromagnetic wave intensity against temperature, thereby determining the molecular rotation speed of the fullerene or the fullerene derivative from the frequency of the electromagnetic wave at a temperature where there is an abrupt change in the electromagnetic wave intensity from the absorption region to the non-absorption region". [See the methods and experimental results section where the change in intensity from the absorption region to the non-absorption region against temperature for 15K-300K, is determined and calculations are performed with respect to 50K, 165K, and 220K specifically, which results in the rotational frequency being determined along with the change in rotational frequency. (i.e. a change in rotational frequency imparts an increase or decrease in rotational frequency 'speed' with respect to the abrupt temperature change of 50K, to 165K, and to 220K)].

7. With respect to **Claim 2**, the **Son Yu et al.**, Japanese article teaches, that "the electromagnetic waves produced from the surface of a surface acoustic wave (i.e. **SAW**) "device are used". [See the method / middle paragraph where an SAW device is directly disclosed.] The same reasons for rejection, that apply to **claim 1** also apply to **claim 2** and need not be reiterated.

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### Conclusion

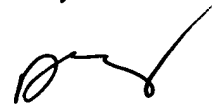
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tiffany Fetzner whose telephone number is: (571) 272-2241. The examiner can normally be reached on Monday-Thursday from 7:00am to 4:30pm., and on alternate Friday's from 7:00am to 3:30pm.

9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez, can be reached at (571) 272-2245. The **only official fax phone number** for the organization where this application or proceeding is assigned is **(571) 273-8300**.

10. Information regarding the status of an application may be obtained from the Patent Application information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PMR or Public PMR. Status information for unpublished applications is available through Private PMR only. For more information about the PMR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PMR system contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



TAF  
April 24, 2006



Diego Gutierrez  
Supervisory Patent Examiner  
Technology Center 2800